GGOS, GEO, and the Interoperability of Portals

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Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California, USA

Unified Analysis Workshop

July 10–12, 2017
Paris, France

GEO GROUP ON EARTH OBSERVATIONS

Our Mandate

GEO Vision

To realize a future where decisions and actions, for the benefit of humankind, are informed by coordinated, comprehensive and sustained Earth observation information and services.

GEO Mission

GEO's mission is to connect the demand for sound and timely environmental information with the supply of data and information about the Earth.

Advocacy for broad, open data policies helps ensure that the data collected through national, regional and global observing systems is both made available and applied to decision-making for global priorities including The Sustainable Development Goals, The Paris Agreement on climate change, The Sendai Framework for Disaster Risk Reduction and Aichi Targets of The Convention on Biodiversity.

GEO Value

GEO is a partnership of 104 Member governments and the European Commission; and 109 Participating Organizations comprised of international bodies with a mandate in and/or use of Earth observations.

GEO convenes expertise from across different disciplines to coordinate their activities and promote broad and open data polices. The GEO Workplan 2017-2025 brings together experts to ensure global collaboration, identify gaps and reduce duplication in the areas of Biodiversity and Ecosystem Sustainability; Disaster Resilience; Energy and Mineral Resources Management; Food Security; Infrastructure & Transportation Management; Public Health Surveillance; Sustainable Urban Development; and Water Resources Management.

Together, the GEO community is creating a Global Earth Observation System of Systems (GEOSS) to better integrate observing systems and share data by connecting existing infrastructures using common standards. There are more than 200 million data resources in GEOSS that span all GEO's thematic areas.

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About GEOSS

A central part of GEO's Mission is to build the Global Earth Observation System of Systems (GEOSS). GEOSS is a set of coordinated, independent Earth observation, information and processing systems that interact and provide access to diverse information for a broad range of users in both public and private sectors. GEOSS links these systems to strengthen the monitoring of the state of the Earth. It facilitates the sharing of environmental data and information collected from the large array of observing systems contributed by countries and organizations within GEO. Further, GEOSS ensures that these data are accessible, of identified quality and provenance, and interoperable to support the development of tools and the delivery of information services. Thus, GEOSS increases our understanding of Earth processes and enhances predictive capabilities that underpin sound decision-making: it provides access to data, information and knowledge to a wide variety of users.

This 'system of systems', through its Common Infrastructure (GCI), proactively links together existing and planned observing systems around the world and support the need for the development of new systems where gaps currently exist. It will promote common technical standards so that data from the thousands of different instruments can be combined into coherent data sets.

The 'GEOSS Portal' offers a single Internet access point for users seeking data, imagery and analytical software packages relevant to all parts of the globe. It connects users to existing data bases and portals and provides reliable, up-to-date and user friendly information – vital for the work of decision makers, planners and emergency managers.

For users with limited or no access to the Internet, similar information is available via the 'GEONETCast' network of telecommunication satellites.

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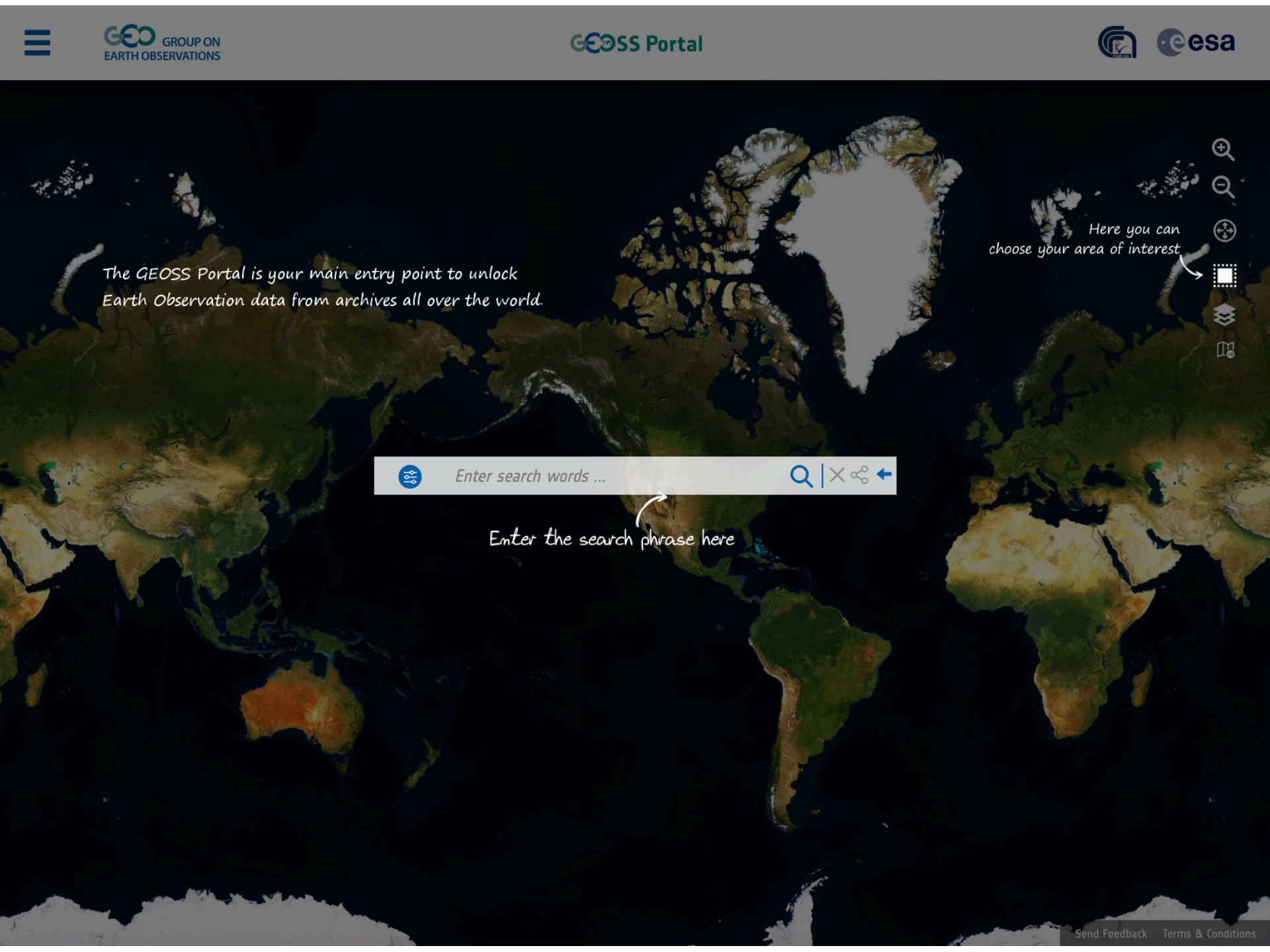
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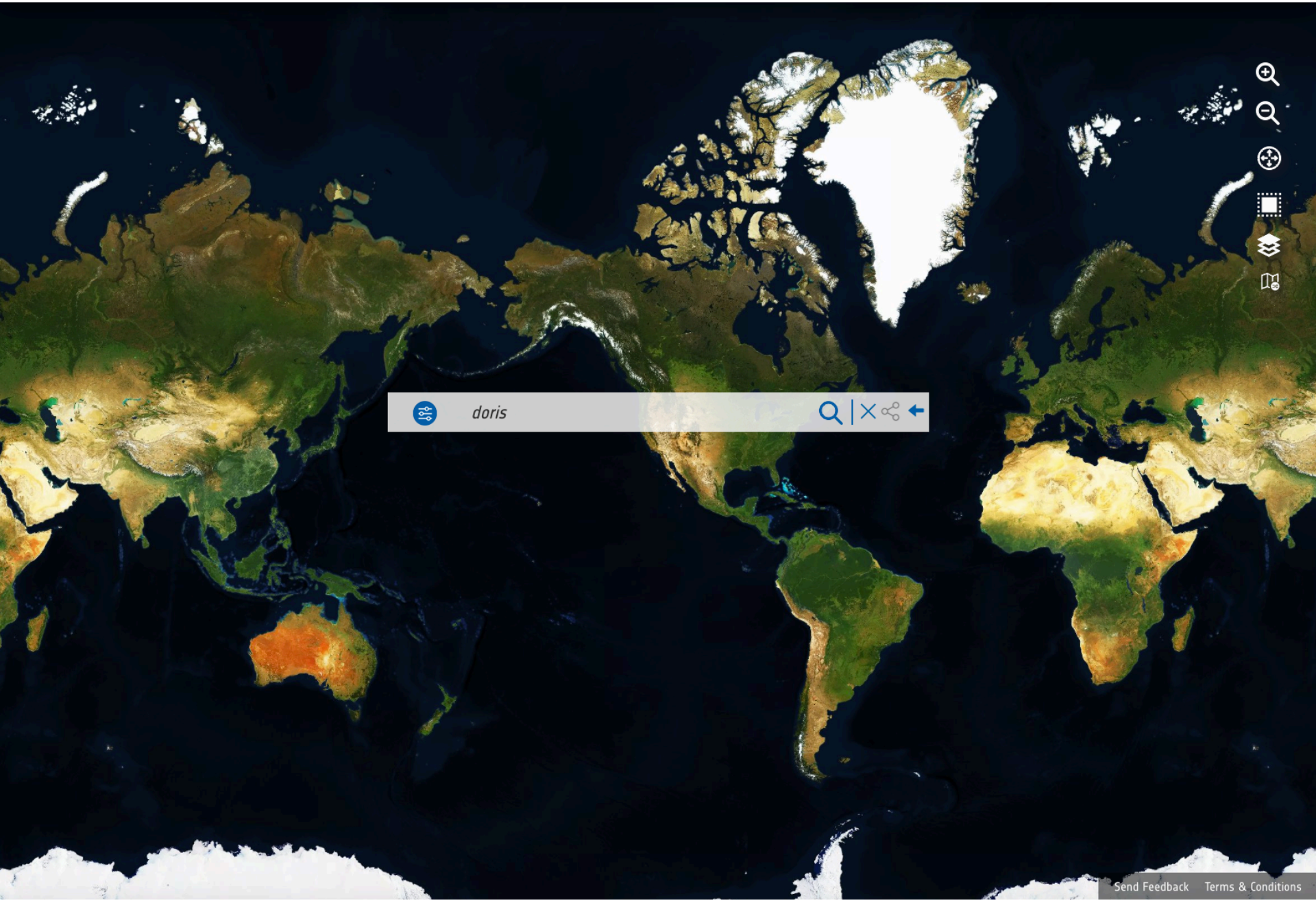
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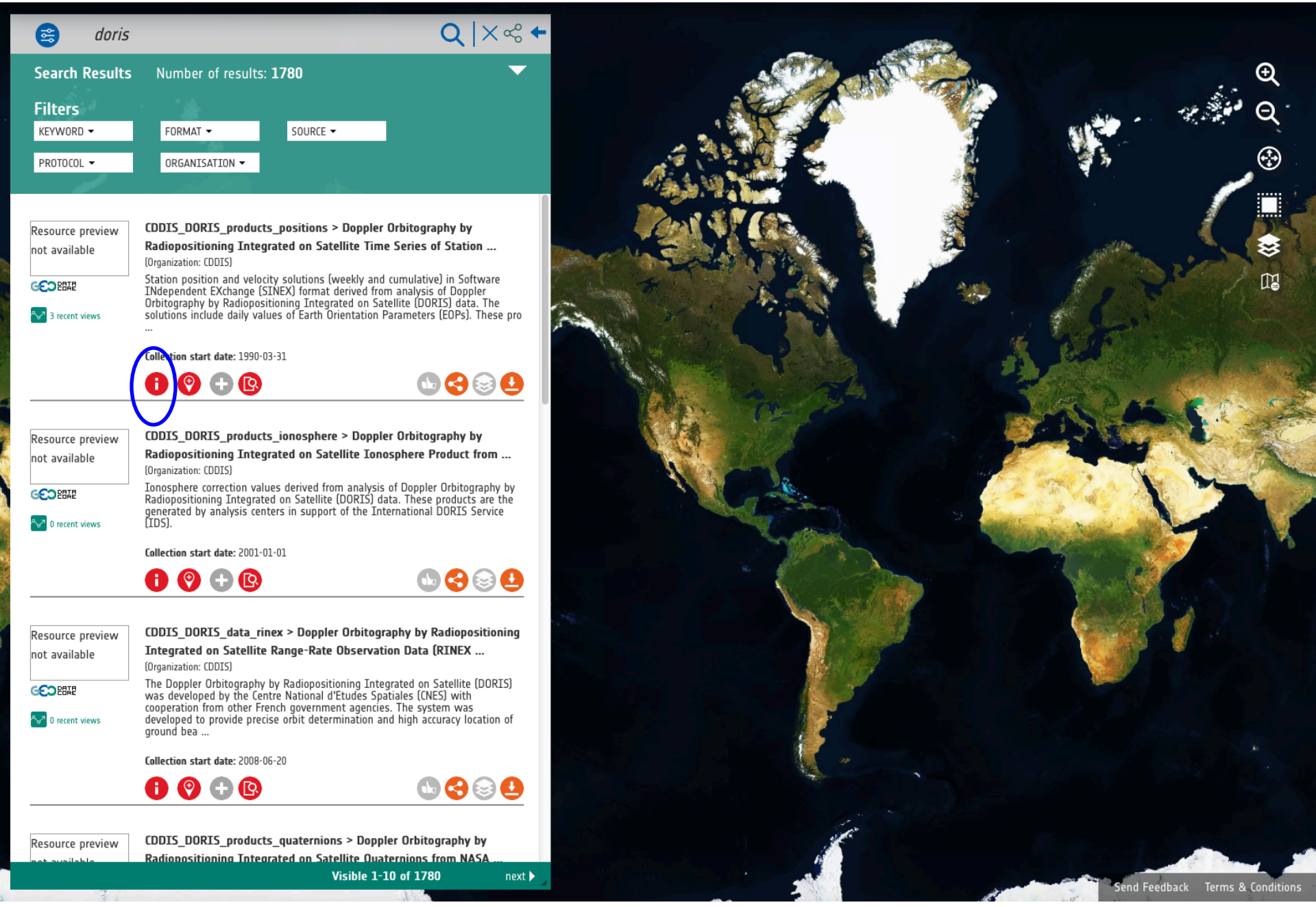
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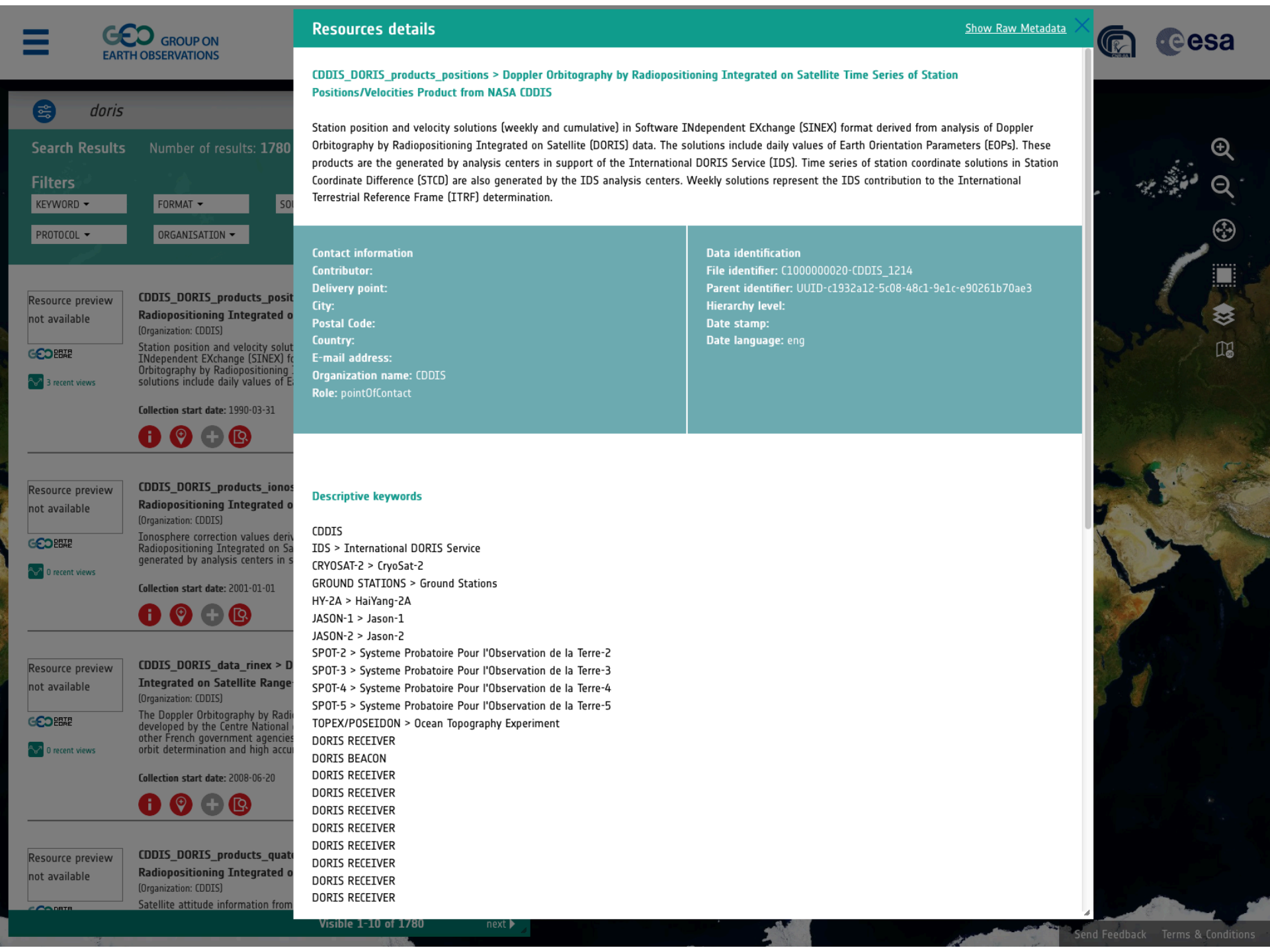

Resources details

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Station position and velocity solutions (weekly and cumulative) in Software INdependent EXchange (SINEX) format derived from analysis of Doppler Orbitography by Radiopositioning Integrated on Satellite (DORIS) data. The solutions include daily values of Earth Orientation Parameters (EOPs). These products are the generated by analysis centers in support of the International DORIS Service (IDS). Time series of station coordinate solutions in Station Coordinate Difference (STCD) are also generated by the IDS analysis centers. Weekly solutions represent the IDS contribution to the International Terrestrial Reference Frame (ITRF) determination.

Contact information
Contributor:
Delivery point:
City:
Postal Code:
Country:
E-mail address:
Organization name: CDDIS
Role: pointOfContact

Data identification
File identifier: C1000000020-CDDIS_1214
Parent identifier: UUID-c1932a12-5c08-48c1-9e1c-e90261b70ae3
Hierarchy level:
Date stamp:
Date language: eng

Descriptive keywords

CDDIS
IDS > International DORIS Service
CRYOSAT-2 > CryoSat-2
GROUND STATIONS > Ground Stations
HY-2A > HaiYang-2A
JASON-1 > Jason-1
JASON-2 > Jason-2
SPOT-2 > Systeme Probatoire Pour l'Observation de la Terre-2
SPOT-3 > Systeme Probatoire Pour l'Observation de la Terre-3
SPOT-4 > Systeme Probatoire Pour l'Observation de la Terre-4
SPOT-5 > Systeme Probatoire Pour l'Observation de la Terre-5
TOPEX/POSEIDON > Ocean Topography Experiment
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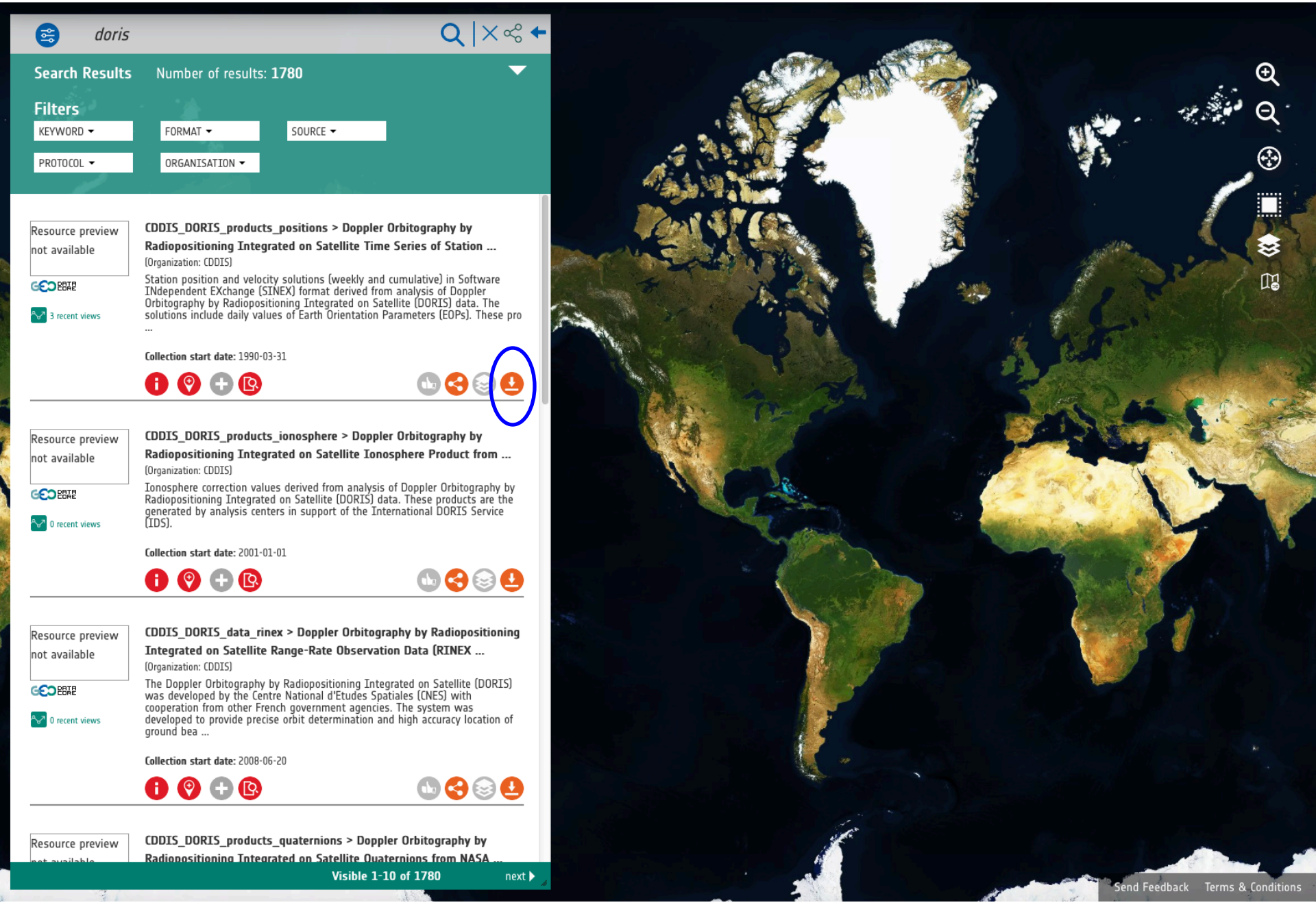
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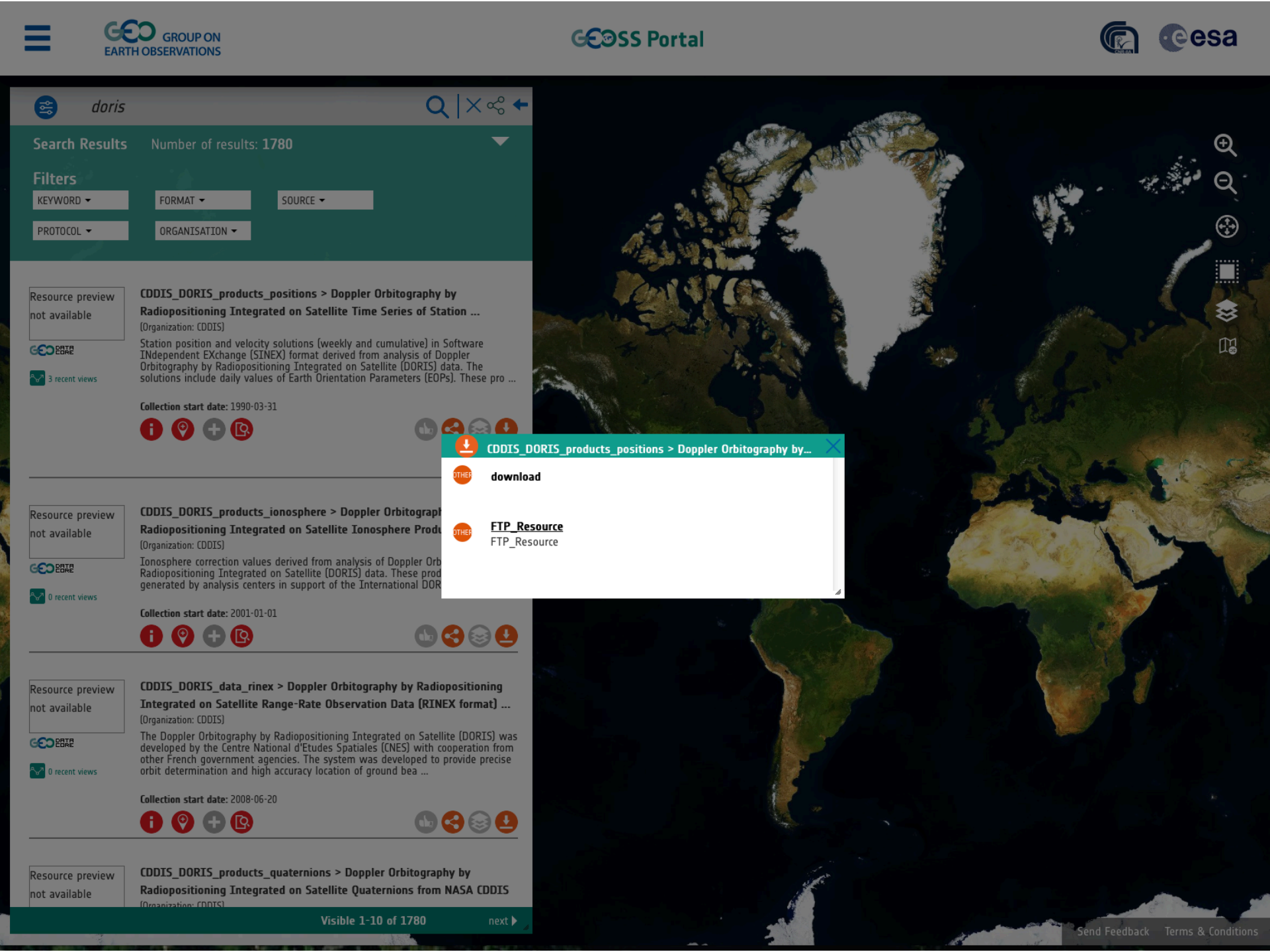
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2010campaign		12/2/10 12:00:00 AM
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eop		2/16/17 10:21:00 AM
geoc		2/16/17 10:23:00 AM
iono		2/10/03 12:00:00 AM
orbits		11/25/14 12:00:00 AM
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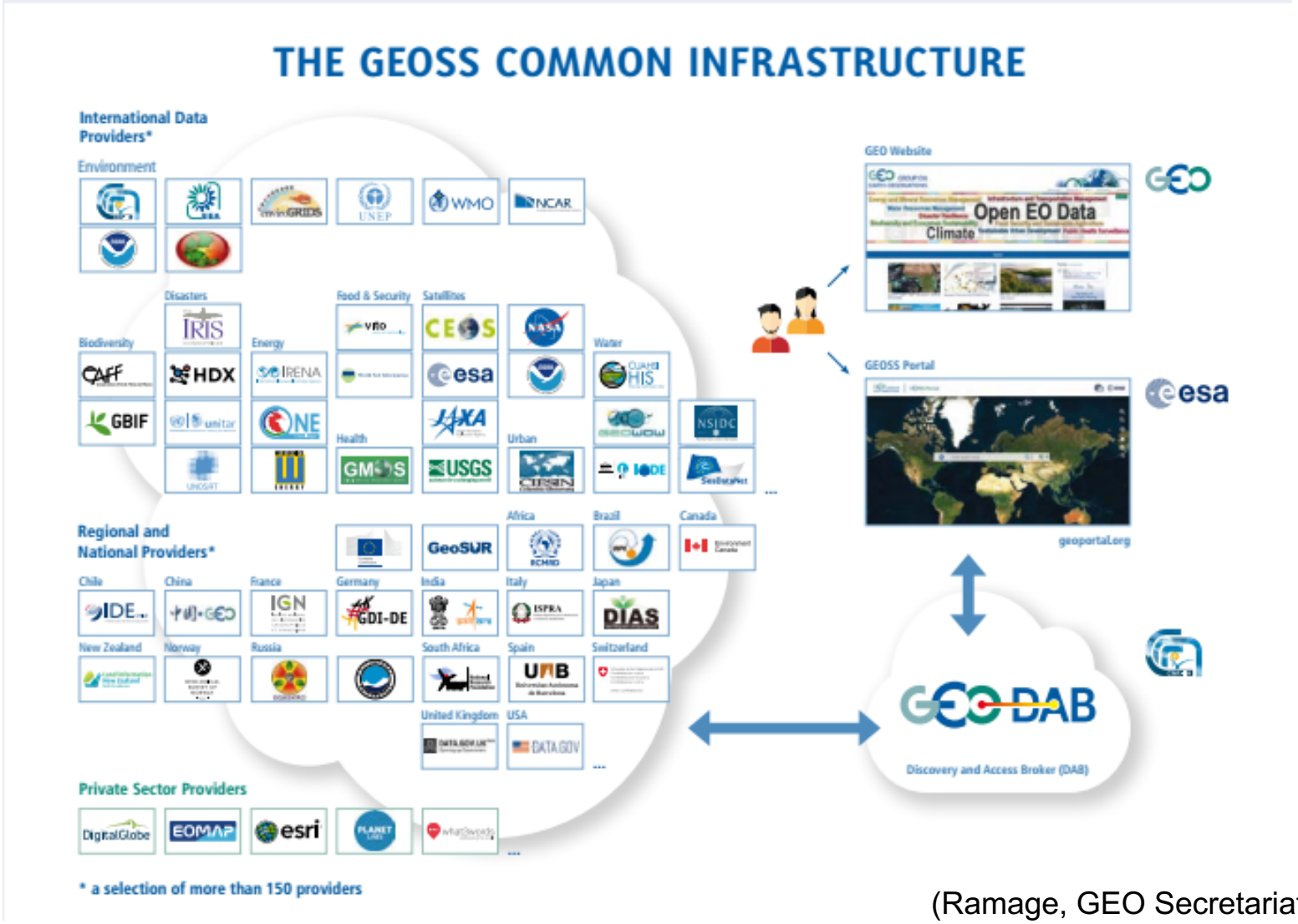
stcd		4/20/17 10:26:00 AM

GEOSS Common Infrastructure (GCI)



(Ramage, GEO Secretariat, 2017)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Najis Tuke

Backup Slides

History

- GEO established in 2005 at 3rd EO Summit
  - Primary goal
    - Create the Global Earth Observation System of Systems (GEOSS)
- In 2014, the GEO Ministers extended GEO for a 2nd decade
  - With the goals to
    - Improve the effectiveness of GEO's actions
    - Broaden engagement & collaboration of stakeholders including decision makers
    - Sustain resources for GEOSS' continuous development and functioning
  - Requested development of a new plan to achieve these goals
- In 2015, the strategic and implementation plan was accepted
  - "GEO Strategic Plan 2016-2025: Implementing GEOSS"

https://www.earthobservations.org/documents/GEO_Strategic_Plan_2016_2025_Implementing_GEOSS.pdf

  - Implementation of this plan is defined in the GEO Work Programmes

GEO Work Programmes

- Primary coordination and planning instrument
  - Defines Foundational Tasks (achieve strategic objectives)
    - GEOSS Development and GEOSS Common Infrastructure (11)
    - Community Development (3)
    - Secretariat Operations (4)
  - Describes plans for
    - GEO Flagship tasks (develop and implement near-operational services) (0)
    - GEO Initiative tasks (demonstrate pilot or prototype services) (21)
    - GEO Community Activity tasks (develop concepts and applications) (33)
- "GEO 2016 Work Programme"

https://www.earthobservations.org/documents/work_programme/geo_2016_work_programme.pdf

  - First Work Programme for new GEO decade 2016-2025
  - Is transitional in nature
    - Bridges 1st and 2nd GEO decades
    - Ensures continuation of current activities while defining new priority actions
  - Implements provisions of Strategic and Implementation Plan
- 1st "regular" Work Progamme will cover 2017-2019

GGOS Participation

- Contributor to GEOSS Development (GD) task:
  - GD-06: GEOSS nonspace based Earth observation resources
    - Analyze current trends and develop new scenarios
    - Promote and coordinate
    - Identify data resources needed
    - Compile global perspectives on existing plans for new observing networks
    - Promote coordination of non space-based and space-based observations
- GEO-XIII Plenary, Exhibition, and Side Events (St. Petersburg, Russia; November 7-10, 2016)
  - Plenary
    - Contributed section on Geodesy to GD-06 part of the *GEO 2016 Work Programme Progress Report* that will be submitted to the GEO-XIII Plenary
  - Exhibition
    - GGOS booth with IAG, GGOS, and IGS banners, posters, brochures, and promotional materials
  - Side Events
    - *In-situ EO Networks and its Relation to GEOSS* (discussion of GD-06 report)
    - *Panel on Earth and Space Observations for Disaster Risk Assessment* (panelist)